

**REMARKS**

In the Official Action, the Examiner has maintained the rejection of claims 1-23 under 35 U.S.C. § 103(a) as being unpatentable over Ikeda et al. (U.S. Patent No. 4,367,012). For the following reasons, however, the Examiner's rejection is most respectfully traversed by Applicants.

The basis for the Examiner's rejection is that a *prima facie* case of obviousness has been established by the disclosure of Ikeda et al. in that there is overlap in the ranges of Ikeda et al. with those of Applicants' claimed ranges. However, as discussed below, Ikeda et al. in its disclosure also teaches away or directs one of ordinary skill in the art away from Applicants' claim compositions. This direction away is based upon a number of different disclosures.

For example, Ikeda et al. allows zirconia ( $ZrO_2$ ). It is an optional component in the glass of Ikeda et al., but it can be present in the range of from 0-7 weight percent. It is exemplified, however, in a number of the examples in Table 1 of Ikeda et al., in amounts much greater than that of a natural, unavoidable impurity. Thus, one of ordinary skill in the art reading Ikeda et al. would be directed to the use of zirconia in a glass composition.

To the contrary, the claims of the present invention recite a composition "consisting essentially of". This term is defined on page 18 of the present specification. Glass compositions free of zirconia are noted as being among those which would be excluded by the term "consisting essentially of". The Examiner challenges this as simply indicating that the absence of zirconia would be a "preference". However, it cannot be ignored that the language "consisting essentially of" is specifically used in the present

claims, has a legal and defined meaning, and in the paragraph on page 18 of the present specification specifically notes zirconia as a compound which would fall within the category that is to be excluded by the language. Where there is a preference or a none preferred embodiment, the Examiner must look at the claims and it is clear when one reads the claims in light of the specification, including page 18, that the language "consisting essentially of" excludes zirconia. Thus the scope of the claims would not include zirconia in any amount greater than an unavoidable impurity.

It should be further noted that zinc oxide is a different oxide from zirconia, and Applicants' comments are directed to the presence of zirconia in glass compositions, as illustrated in many of the Ikeda et al. compositions, and not the presence of zinc oxide.

Furthermore, it is submitted that the various examples in a patent direct one of ordinary skill in the art to the type of compositions being suggested. Thus, reviewing the illustrated compositions suggestive of the disclosure is believed relevant to the types of compositions to which the skilled artisan is being directed by the reference. In the present case, none of the examples provided in Ikeda et al. fall within the presently claimed invention, and the examples are all suggestive of particular amounts of components which direct one away from the claimed invention. Most of the specific examples provided in Table 1 contain far too much silica, or far too little alumina. Following such a suggestion by the reference directs one away from the claimed invention. When an example does contain appropriate amounts of silica and alumina, however, the particular examples in Ikeda et al. contain far too much  $B_2O_3$ , and all contain far too little  $R_2O$ . Thus, the direction of Ikeda et al. with regard to glass compositions are to compositions which

contain inappropriate amounts of silica and alumina, and if appropriate amounts of silica and alumina are used, then inappropriate amounts of  $B_2O_3$  and  $R_2O$  are required. The skilled artisan following such direction would not employ a composition within the presently claimed invention.

The same is true for the various examples in Tables 2, 3 and 4 of Ikeda et al. The amount of silica is generally far too much, or the amount of alumina is far too little. Thus, the skilled artisan reviewing all of the examples in Ikeda et al. would be directed away from glass compositions in accordance with the claimed invention.

Furthermore, an important requirement of the claimed invention is that the final aged tensile value would be at least 3000, this value being at least 3000 in combination with the specific compositions of the claimed invention. Nowhere in Ikeda et al. is a final aged tensile value discussed, or any motivation provided to the skilled artisan to so select a glass composition such that the final aged tensile value will be at least 3000. The Examiner indicates that such a property would be inherent in the compositions since the claimed compositions are the same as those of the Ikeda et al. However, for the reasons discussed above, it is submitted that Ikeda et al. actually directs one away from the claimed compositions in requiring far different amounts of silica, alumina, and/or  $B_2O_3$  or  $R_2O$ . This being the case, there is no guarantee of any "inherent" property. Of course, inherency requires that the property necessarily exists, and since Ikeda et al. is directing the skilled artisan away from the compositions of the present invention, if anything, the presumption should be that there is no guarantee that the property would be "inherent".

Accordingly, favorable reconsideration and withdrawal of the Examiner's rejection of the claims of record over Ikeda et al. are respectfully requested.

Claims 1-21 also stand rejected under 35 U.S.C. § 103 as being unpatentable over De Meringo et al. (WO99/57073, equivalent to U.S. Patent No. 6,313,050). For the following reasons, however, the Examiner's rejection is most respectfully traversed by Applicants.

The De Meringo et al. patent relates to a mineral wool composition. A disclosure of broad ranges of various components of the glass composition is included in the description. There is some overlap in the ranges, due to the breadth. However, Applicants submit that one of ordinary skill in the art reviewing De Meringo et al. in its entirety, would in no manner be directed to Applicants' claimed invention, but would rather be directed away from Applicants' claimed invention. Such direction away would rebut any *prima facie* case of obviousness that may be deemed to exist due to the overlap in ranges.

When one of ordinary skill in the art reviews the various examples in Tables 1 and 2 of De Meringo et al., the skilled artisan would be directed away from any possibility of practicing Applicants' claimed invention. This is due to the fact that none of the examples even provide one composition which would fall within the compositional range of Applicants' claimed invention. Most of the examples contain far too much alumina. The only examples which do not are Examples 5 and 9, but the compositions of Examples 5 and 9 of De Meringo et al. have too much CaO plus MgO, far too little Na<sub>2</sub>O plus K<sub>2</sub>O, and far too little B<sub>2</sub>O<sub>3</sub>. Thus, when one follows the teachings of De Meringo et al. in its

entirety, generally far too much alumina is employed in the composition. When an appropriate amount of alumina is chosen, too much and too little of several other important components are included in the composition. Thus, the trends illustrated in De Meringo et al. would direct one of ordinary skill in the art away from Applicants' claimed invention. Thus, before one could even attempt to select glass components and their amounts to satisfy the final age tensile value required by the presently claimed invention, one would be directed away by De Meringo et al. from even selecting the compositional components within the required ranges to meet such a value.

Indeed, nowhere in De Meringo et al. is there any recognition of the important feature of final aged tensile value. Since De Meringo et al. suggest compositions not within the compositional requirements of the presently claimed invention, it certainly could not be said that such a final aged tensile value would be inherent in the compositions. And, since De Meringo et al. contains no recognition or discussion of this value, the skilled artisan could in no manner be guided to make the correct selection in order to practice Applicants' claimed invention.

Accordingly, favorable reconsideration and withdrawal of the Examiner's rejection of Claims 1-21 over De Meringo et al. are respectfully requested.

From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

Respectfully submitted,

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